




**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
ON APPEAL FROM THE EXAMINER TO THE BOARD
OF PATENT APPEALS AND INTERFERENCES**

In re Application of: MOON, et al.
Serial No.: 09/669,098
Filing Date: September 25, 2000
Confirmation No. 3457
Group Art Unit: 2667
Examiner: Anh Vu H. Ly
Title: *Generating Graded Packets for Packet Voting in Wireless Communications Systems*

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Name:  Quincy Chambers
Date: July 12, 2005

Dear Sir:

APPEAL BRIEF

Appellants have appealed to this Board from the decision of the Examiner, contained in a Final Office Action mailed January 1, 2005 ("Final Office Action"), finally rejecting Claims 1-5, 7-15, 17-25, 27-34, and 36-39. Appellants mailed a Notice of Appeal on May 12, 2005. Appellants respectfully submit this Appeal Brief for consideration of the Board.

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Real Party In Interest

The real party in interest for this Application under appeal is Cisco Technology, Inc.
of San Jose, California.

Related Appeals And Interferences

The Appellants, the undersigned Attorney for Appellants, and the Assignee know of no applications on appeal that may directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

Status Of Claims

Claims 1-5, 7-15, 17-25, 27-34, and 36-39 are pending and stand rejected by the Final Office Action. Appellants present all pending claims – Claims 1-5, 7-15, 17-25, 27-34, and 36-39 – for appeal and set forth these claims in Appendix A.

Status of Amendments

The claims on appeal and which appear in Appendix A of this Appeal Brief represent the form of the claims as of the time of the Final Office Action. Appellants filed no amendments to the claims after the Final Office Action. In a Response to Final Office Action dated March 14, 2005, Appellants requested amendments to the Specification to update information regarding co-pending applications. The Examiner replied, in an Advisory Action dated April 4, 2005, that these amendments would not be entered.

Summary of Claimed Subject Matter

The claims of the present application are directed to base transceiver stations and related methods of operation. The base transceiver stations (18) communicate information wirelessly with mobile units (12) and support the back-end transport of this information in packet form using a core packet network (22). Specification, Figure 1. For example, for information received from a mobile unit, a base transceiver station may forward that information in packet form to the core packet network. Similarly, a base transceiver station may receive packets from the core packet network that contain information for transmission to a mobile unit.

In certain circumstances, multiple base transceiver stations may receive copies of the same information transmitted from a mobile unit. In these circumstances, one or more of the base transceiver stations may forward packets containing versions of the same information. To help to select between multiple packets containing various versions of the same information, the base transceiver stations can generate graded packets. A graded packet includes a metric, such as a bit error rate, associated with the receipt of the information from the mobile unit. *Id.* at page 10, line 26 - page 11, line 4. A component receiving multiple copies of a packet, each in the form of a graded packet, can thus use the encoded metrics to intelligently select one of the graded packets to forward. *Id.*

To further aid the system, the base transceiver stations can dynamically form selection groups. *Id.* at Figure 9. A selection group includes one or more base transceiver stations responsible for handling packets of information to and from mobile units. For packets of information from a mobile unit, the base transceiver stations in the selection group generate graded packets and forward these graded packets to the core packet network. *Id.* at page 10, line 26 - page 11, line 4. Elements in the core packet network can then select from among the graded packets using the encoded metrics. An example selection group illustrated in Figure 4 includes four base transceiver stations.

In the claimed embodiments, base transceiver stations can register with a selection group for a particular mobile unit based on monitoring of a wireless link with that mobile unit. The base transceiver stations can further provide for withdrawal from selection groups. This enables the base transceiver stations to help dynamically control membership in selection groups in a distributed fashion.

Grounds Of Rejection To Be Reviewed On Appeal

I. Appellants request that the Board review the Examiner's rejection of Claims 1, 7-11, 17-21, 27-31, and 36-39 under 35 U.S.C. § 103(a) as unpatentable over U.S. Patent No. 5,719,871, issued to Helm et al. ("Helm"), in view of U.S. Patent No. 6,151,502, issued to Padovani et al. ("Padovani").

II. Appellants request that the Board review the Examiner's rejection of Claims 1, 8-11, 18-21, 28-31, and 37-39 under 35 U.S.C. § 103(a) as unpatentable over U.S. Patent No. 5,867,491, issued to Derango et al. ("Derango"), in view of Padovani.

III. Appellants request that the Board review the Examiner's rejection of Claims 2-5, 12-15, 22-25 and 32-34 under 35 U.S.C. § 103(a) as unpatentable over Helm and Padovani in view of U.S. Patent No. 6,535,738, issued to Bomar et al. ("Bomar").

Argument

I. Claims 1, 7-11, 17-21, 27-31, and 36-39 are patentable over the proposed Helm-Padovani combination.

To establish a *prima facie* case of obviousness, there must be a suggestion or motivation in the prior art to modify or combine the references, and the combination must teach or suggest all elements of the rejected claims. *In re Vaeck*, 947 F.2d 488 (Fed. Cir. 1991). The Examiner's rejection of Claims 1, 7-11, 17-21, 27-31, and 36-39 under 35 U.S.C. § 103 fails both of these requirements. First, even if the combination were proper, the proposed Helm-Padovani combination fails to teach or suggest all elements of the claims. Second, there is no suggestion or motivation in the cited references or in the prior art to combine Helm and Padovani.

A. The claims include patentable limitations not taught or suggested by the proposed Helm-Padovani combination.

Appellants respectfully submit that, even if the proposed combination is given, Helm and Padovani, whether taken alone or in combination, fail to teach or suggest every element of the claims. In general, Helm discloses a diversity voting system for a radio communication system. The system proposed in Helm includes a communication unit (201), a number of base stations (202-204), and a comparator (206) connected to the base stations. Helm, Figure 2. The communication unit (described preferably as a Motorola "ASTRO" portable radio) transmits a signal to the base stations. Helm, column 4, lines 35-37 and 48-53. The base stations forward the signal to the comparator in the form of code words. Helm, column 4, lines 58-67. The comparator then selects between the code words received from the base stations. Helm, column 5, lines 29-46.

Helm does not teach, mention, or even suggest handoffs, selection between base stations, or any modification of the connections between the comparator and the base stations. Furthermore, Helm fails to discuss any actions of its base stations that could affect which base stations provide code words to the comparator. Helm thus discloses a static collection of base stations connected to a single comparator. Helm's static collection of base stations served by a single comparator thus fails to teach or suggest the base station of Appellants' independent Claim 1, which requires a processor operable to:

monitor a metric associated with a second wireless link between the wireless interface and a second mobile unit;
determine that the metric associated with the second wireless link has exceeded a predetermined threshold;
register with a selection group associated with the second mobile unit; and
instruct the wireless interface to begin receiving information from the second mobile unit.

The Examiner agrees. Final Office Action, page 3. As teaching these elements, the Examiner relies on Padovani.

In general, Padovani discloses a soft handoff scheme for a wireless communication system. Padovani, column 1, lines 7-10. Padovani discusses several different embodiments, each of which include the selection of an “active set” of base stations under the control of a base station controller. Padovani, column 3, line 5 - column 4, line 42. Each of the embodiments require either the mobile unit or the base station controller to select the active set of base stations. Padovani, therefore, does not teach or suggest the operations of the base station as recited in Claim 1. For at least this reason, Appellants respectfully submit that the proposed Helm-Padovani combination, even if appropriate, fails to teach or suggest all elements of Appellants’ Claim 1. For analogous reasons, the proposed Helm-Padovani combination fails to teach or suggest all elements of the other independent Claims. Appellants thus respectfully request the Board to reverse the Examiner’s rejection of these claims and direct the Examiner to issue a notice of allowance.

B. There is no suggestion or motivation in the cited references or in the prior art to combine Helm and Padovani.

The proposed combination of Helm and Padovani is improper because the prior art fails to suggest or motivate the proposed combination of the references. The factual inquiry whether to combine references must be thorough and searching. *McGinley v. Franklin Sports, Inc.*, 262 F.3d 1339, 1351-52 (Fed. Cir. 2001). This factual question cannot be resolved on subjective belief and unknown authority, but must be based on objective evidence of record. *See In re Lee*, 277 F.3d 1338, 1343-44 (Fed. Cir. 2002).

Nothing in Helm or Padovani suggests or motivates the proposed combination. As discussed above, Helm does not teach, mention, or even suggest handoffs, selection between

base stations, or any modification of the connections between the comparator and the base stations. Thus Helm provides no motivation for a combination with the soft handoff techniques of Padovani. Similarly, Padovani provides no motivation for a combination with the diversity voting system of Helm. Rather, Padovani teaches away from the voting system of Helm. For handling data received from multiple base stations in an active set, Padovani discloses and incorporates by reference the teachings of U.S. Patent No. 5,109,390 (the '390 Patent). Padovani, column 1, lines 47-58. The '390 Patent, as discussed by Padovani, discloses a technique to combine the signals separately received by multiple base stations. Thus Padovani discloses a different technique for handling multiple received signals than that proposed by Helm. Given that Padovani already discloses a technique to solve this situation, one of ordinary skill in the art would not have been motivated to combine the teachings of Helm with Padovani. Appellants thus respectfully request the Board to find the proposed Helm-Padovani combination improper.

II. Claims 1, 8-11, 18-21, 28-31, and 37-39 are patentable over the proposed the proposed Derango-Padovani combination.

As noted above, to establish a *prima facie* case of obviousness, there must be a suggestion or motivation in the prior art to modify or combine the references, and the combination must teach or suggest all elements of the rejected claims. The Examiner's rejection of Claims 1, 8-11, 18-21, 28-31, and 37-39 under 35 U.S.C. § 103 fails both of these requirements. First, even if the combination were proper, the proposed Derango-Padovani combination fails to teach or suggest all elements of the claims. Second, there is no suggestion or motivation in the cited references or in the prior art to combine Derango and Padovani.

A. The claims include patentable limitations not taught or suggested by the proposed Derango-Padovani combination.

Appellants respectfully submit that, even if the proposed combination is given, Derango and Padovani, whether taken alone or in combination, fail to teach or suggest every element of the claims. In general, Derango discloses a system for packet voting in a radio communication system under the control of a session control logic (SCL) controller. Derango, column 2, lines 51-63. As discussed in Derango, the SCL controller coordinates

the resources of multiple packet voting servers to handle processing of incoming packet streams.

Similar to the previous rejection, the Examiner admits that Derango does not disclose the aspects of the independent claims discussed above with respect to the Derango-Padovani rejection. Here again the Examiner relies on the teachings of Padovani to teach these aspects of the independent claims. However, as discussed above, Padovani fails to teach or suggest the operations of the base station as required by Appellants' independent claims. Appellants thus respectfully request the Board to reverse the Examiner's rejection of these claims and direct the Examiner to issue a notice of allowance.

B. There is no suggestion or motivation in the cited references or in the prior art to combine Derango and Padovani.

The proposed combination of Derango and Padovani is improper because the prior art fails to suggest or motivate the proposed combination of the references. Nothing in Derango or Padovani suggests or motivates the proposed combination. As discussed above, Padovani teaches away from a combination with a voting system. In particular, Padovani discloses a technique that combines the signals separately received by multiple base stations. Thus Padovani discloses a different technique for handling multiple received signals than that proposed by Derango. Given that Padovani already discloses a technique to solve this situation, one of ordinary skill in the art would not have been motivated to combine the teachings of Derango with Padovani. Appellants thus respectfully request the Board to find the proposed Derango-Padovani combination improper.

III. Claims 2-5, 12-15, 22-25 and 32-34 include patentable limitations not taught or suggested by the proposed Helm-Padovani-Bomar combination. There is no suggestion or motivation in the cited references or in the prior art to combine Helm, Padovani, and Bomar.

The Examiner introduces Bomar to provide selected elements of the dependent claims. The introduction Bomar fails to teach or suggest any of the aspects of the independent claims discussed above with respect to the proposed Helm-Padovani combination. Thus the proposed Helm-Padovani-Bomar combination fails to teach or suggest all elements of Appellants' independent or dependent claims. Moreover, Bomar fails

to provide any motivation for the Helm-Padovani combination, let alone for the three way combination of Helm, Padovani, and Bomar. Appellants thus respectfully request that the Board further find that the proposed Helm-Padovani-Bomar combination is improper. For at least these reasons, Appellants respectfully request the Board to reverse the Examiner's rejection of these claims and direct the Examiner to issue a notice of allowance.


Conclusion

Appellants have demonstrated that the present invention, as claimed in Claims 1-5, 7-15, 17-25, 27-34, and 36-39, is patentably distinct from the cited art. Accordingly, Appellants request that the Board reverse the final rejection and instruct the Examiner to issue a Notice of Allowance of Claims 1-5, 7-15, 17-25, 27-34, and 36-39.

Appellants enclose a check in the amount of \$500.00 to cover the fee. The Commissioner is hereby authorized to charge any extra fees or credit any overpayments to Deposit Account No. 02-0384 of Baker Botts L.L.P.

Respectfully submitted,

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Appendix A - Claims Involved In Appeal

1. (Previously Presented) A base transceiver station (BTS) comprising:
 - a wireless interface operable to receive information from a mobile unit using a wireless link between the wireless interface and the mobile unit;
 - a processor operable to:
 - determine a metric associated with the wireless link; and
 - generate a graded packet encoding the information and the metric, wherein the metric enables elements of a core packet network to select between multiple packets encoding the information; and
 - a network interface operable to communicate the graded packet to the core packet network;wherein the processor is further operable to:
 - monitor a metric associated with a second wireless link between the wireless interface and a second mobile unit;
 - determine that the metric associated with the second wireless link has exceeded a predetermined threshold;
 - register with a selection group associated with the second mobile unit; and
 - instruct the wireless interface to begin receiving information from the second mobile unit.
2. (Original) The BTS of Claim 1, wherein the processor is further operable to:
 - monitor the metric associated with the wireless link;
 - determine that the metric associated with the wireless link has degraded below a predetermined threshold;
 - withdraw from a selection group associated with the mobile unit; and
 - instruct the wireless interface to discontinue receiving further information from the mobile unit.
3. (Original) The BTS of Claim 2, wherein the processor is further operable to instruct the wireless interface to discontinue receiving further information by instructing the wireless interface to discontinue receiving on a Walsh code/frequency combination associated with the mobile unit.

4. (Original) The BTS of Claim 2, wherein the processor is further operable to instruct the mobile unit to discontinue receiving communications from the BTS on a Walsh code/frequency combination.

5. (Original) The BTS of Claim 2, wherein the selection group comprises a plurality of BTSs each receiving information from the mobile unit.

6. (Canceled)

7. (Original) The BTS of Claim 1, wherein the metric is a selected one of a signal strength, a signal-to-noise ratio, a bit error rate, and a carrier-to-noise ratio.

8. (Original) The BTS of Claim 1, wherein the processor is further operable to encode an identifier in the graded packet, wherein the identifier enables the elements of the core packet network to match the graded packet with other graded packets encoding the information.

9. (Original) The BTS of Claim 1, wherein the wireless interface is further operable to receive the information from the mobile unit as a packet encoding the information.

10. (Original) The BTS of Claim 1, wherein the information comprises voice information associated with a communications session.

11. (Previously Presented) A method for wireless communications comprising:
receiving information from a mobile unit using a wireless link with the mobile unit;
determining a metric associated with the wireless link;
generating a graded packet encoding the information and the metric, wherein the metric enables elements of a core packet network to select between multiple packets encoding the information;
communicating the graded packet to the core packet network;
monitoring a metric associated with a second wireless link with a second mobile unit;
determining that the metric associated with the second wireless link has exceeded a predetermined threshold;
registering with a selection group associated with the second mobile unit; and
receiving information from the second mobile unit.

12. (Original) The method of Claim 11, further comprising:
monitoring the metric associated with the wireless link;
determining that the metric for the wireless link has degraded to a predetermined threshold;
withdrawing from a selection group associated with the mobile unit; and
discontinuing to receive further information from the mobile unit.

13. (Original) The method of Claim 12, wherein discontinuing to receive further information from the mobile unit comprises discontinuing to receive on a Walsh code/frequency combination associated with the mobile unit.

14. (Original) The method of Claim 12, further comprising instructing the mobile unit to discontinue receiving communications on a Walsh code/frequency combination.

15. (Original) The method of Claim 12, wherein the selection group comprises a plurality of base transceiver stations each receiving information from the mobile unit.

16. (Canceled)

17. (Original) The method of Claim 11, wherein the metric is a selected one of a signal strength, a signal-to-noise ratio, a bit error rate, and a carrier-to-noise ratio.

18. (Original) The method of Claim 11, further comprising encoding an identifier in the graded packet, wherein the identifier enables the elements of the core packet network to match the graded packet with other graded packets encoding the information.

19. (Original) The method of Claim 11, wherein receiving the information from the mobile unit comprises receiving a packet from the mobile unit, wherein the packet encodes the information.

20. (Original) The method of Claim 11, wherein the information comprises voice information received from a user of the mobile unit.

21. (Previously Presented) Wireless communications software operable to:
receive information from a mobile unit using a wireless link with the mobile unit;
determine a metric associated with the wireless link;
generate a graded packet encoding the information and the metric, wherein the metric enables elements of a core packet network to select between multiple packets encoding the information;
communicate the graded packet to the core packet network;
monitor a metric associated with a second wireless link with a second mobile unit;
determine that the metric associated with the second wireless link has exceeded a predetermined threshold;
register with a selection group associated with the second mobile unit; and
receive information from the second mobile unit.

22. (Original) The software of Claim 21, further operable to:
monitor the metric associated with the wireless link;
determine that the metric associated with the wireless link has degraded to a predetermined threshold;
withdraw from a selection group associated with the mobile unit; and
discontinue to receive further information from the mobile unit.

23. (Original) The software of Claim 22, further operable to discontinue to receive further information by discontinuing to receive on a Walsh code/frequency combination associated with the mobile unit.

24. (Original) The software of Claim 22, further operable to instruct the mobile unit to discontinue receiving communications on a Walsh code/frequency combination.

25. (Original) The software of Claim 22, wherein the selection group comprises a plurality of base transceiver stations each receiving information from the mobile unit.

26. (Canceled)

27. (Original) The software of Claim 21, wherein the metric is a selected one of a signal strength, a signal-to-noise ratio, a bit error rate, and a carrier-to-noise ratio.

28. (Original) The software of Claim 21, further operable to encode an identifier in the graded packet, wherein the identifier enables the elements of the core packet network to match the graded packet with other graded packets encoding the information.

29. (Original) The software of Claim 21, further operable to receive the information from the mobile unit as a packet encoding the information.

30. (Original) The software of Claim 21, wherein the information comprises voice information received from a user of the mobile unit.

31. (Previously Presented) A base transceiver station (BTS) comprising:
means for receiving information from a mobile unit via a wireless link with the mobile unit;
means for determining a metric associated with the wireless link;
means for generating a graded packet encoding the information and the metric, wherein the metric enables elements of a core packet network to select between multiple packets encoding the information;
means for communicating the graded packet to the core packet network;
means for monitoring a metric associated with a second wireless link with a second mobile unit;
means for determining that the metric associated with the second wireless link has exceeded a predetermined threshold;
means for registering with a selection group associated with the second mobile unit;
and
means for receiving information from the second mobile unit.

32. (Original) The BTS of Claim 31, further comprising:
means for monitoring the metric associated with the wireless link;
means for determining that the metric associated with the wireless link has degraded to a predetermined threshold;
means for withdrawing from a selection group associated with the mobile unit; and
means for discontinuing to receive further information from the mobile unit.

33. (Original) The BTS of Claim 32, wherein the means for discontinuing to receive further information comprises means for discontinuing to receive on a Walsh code/frequency combination associated with the mobile unit.

34. (Original) The BTS of Claim 32, wherein the selection group comprises a plurality of base transceiver stations each receiving information from the mobile unit.

35. (Canceled)

36. (Original) The BTS of Claim 31, wherein the metric is a selected one of a signal strength, a signal-to-noise ratio, a bit error rate, and a carrier-to-noise ratio.

37. (Original) The BTS of Claim 31, further comprising means for encoding an identifier in the graded packet, wherein the identifier enables the elements of the core packet network to match the graded packet with other graded packets encoding the information.

38. (Original) The BTS of Claim 31, wherein the means for receiving the information from the mobile unit comprises means for receiving a packet from the mobile unit, wherein the packet encodes the information.

39. (Original) The BTS of Claim 31, wherein the information comprises voice information received from a user of the mobile unit.

Appendix B: Evidence

NONE

Appendix C: Related Proceedings

NONE